

**Work Order ID 73452**

Page 1

Thursday, September 01, 2011 7:32:15 AM

Item ID: D3294-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket

Start Date: 8/31/2011 Start Qty: 6.00



Cust Item ID:

Required Date: 9/16/2011 Req'd Qty: 6.00



Customer:

Reference:

Approvals:

Process Plan:

*CL*

Date: 11/09/01

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D3294

Rev C

100

0.00



Waterjet

FLOW CNC Waterjet

2074 . 080

Memo

1-Cut as per Dwg D3294

CUt File D3294-3

Dwg Rev: *E*Prog Rev: *E*

\*grain direction on a 45 deg as per dwg\*\*

2-Deburr if necessary

0.00

B11-9-26

*8*

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Quality Control

Memo

0.00

B11-9-26

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Cust Item ID:

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Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

J ul 01/27

(72)

130

0.00



Brake NC

Memo

0.00

Brake NC

1-Deburr if necessary  
2-Bend as per Dwg D3294  
(Ensure angle is correct)

SB ul 01/27

(8)

140

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

S ul 01/27

(78)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 73452**

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Cust Item ID:

Required Date: 9/16/2011 Req'd Qty: 6.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150 Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

8 BX 11-9-28

160 QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

8x 11-09-28

170 0.00



Small Fab

Memo

0.00

Small Fab

1-Install D3294-5 doubler to D3294-3 bracket with rivets as per dwg. D3294

8/4/09/29 ②

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

# Work Order ID 73452

Thursday, September 01, 2011 7:32:15 AM



Page 4

Item ID: D3294-1

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Revision ID:

Stop



Item Name: Bracket

Start Date: 8/31/2011 Start Qty: 6.00



Cust Item ID:

Required Date: 9/16/2011 Req'd Qty: 6.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

180

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

190

Black Sandtex(Ref:4.3.5.7) per QSI005 4.3

0.00



Powdercoat

Powder Coating

Memo

Start Time:

Oven Temperature:

Finish Time:

0.00

200

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

M115128

3:45  
32001  
4:15

8XØM/L 11/04/29

8 BL 11.9-29.

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 73452**

Page 5

Thursday, September 01, 2011 7:32:15 AM

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Item Name: Bracket

Start Date: 8/31/2011 Start Qty: 6.00



Cust Item ID:

Required Date: 9/16/2011 Req'd Qty: 6.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210

Identify as per dwg &amp; Stock Location: 212

0.00



Packaging

Memo

0.00

Packaging

220

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, September 01, 2011 7:32:12 AM

Page 1

Work Order ID: 73452

Parent Item: D3294-1

Parent Item Name: Bracket



Start Date: 8/31/2011

Required Date: 9/16/2011

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP ☐ A ☐ 04.08.24 ☐ New issue ☐ KJ/JLM ☐  
 IPP Rev:B Now On Waterjet 07-03-26 JLM  
 IPP Rev:C 08-07-16 Redesign part DD verified by:EC  
 IPP Rev:D 08-10-06 revB as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.080 		Purchased	No			100	sf	197.3000	1.8	11.36842		12	
2024-T3 .080 sheet													

B11-9-26

Location	Loc Qty	Loc Code
MAT022	197.3	
105411	6	
109424	4	
110347	0.5	
112331	3	
113796	7	
114025	15.7	
116604	5.8	
117392	40.1	
118180	115.2	

D3294-5

Manufactured No

170 Each

17.0000

1



Doubler

Location	Loc Qty	Loc Code
GA	17	
68359	4	
69525	13	

6 8/31/09/29

4

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 2

Thursday, September 01, 2011 7:32:12 AM

Work Order ID: 73452



Parent Item: D3294-1



Parent Item Name: Bracket

Start Date: 8/31/2011

Required Date: 9/16/2011

Start Qty: 6.00

Required Qty: 6.00

MS20470AD4-5

Purchased

No

170

Each

3,074.000

15

90



Rivet, Universal Head



*Handwritten signature and date: 8/31/09/29*

Location

Loc Qty

Loc Code

ST319

3074

116893

139

118405

2935

*Handwritten number: 120*

Thursday, September 01, 2011 7:32:12 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	73452
<b>Description:</b> Bracket Assembly		<b>Part Number:</b>	D3294-1
<b>Inspection Dwg:</b> D3294	<b>Rev:</b> C	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.129	+0.005/-0.001	.131	✓		V HB02	
Ø0.141	+0.005/-0.001	.142	Ø		✓	
6.708	+/-0.010	6.711	Δ		V	
1.118	+/-0.010	1.117	A		V	
5.590	+/-0.010	5.591	Δ		V	
1.118	+/-0.010	1.118	Δ		V	
13.563	+/-0.010	13.563	Δ		T HB01	
1.043	+/-0.010	1.041	Ø		V	
0.625	+/-0.010	.624	Δ		V	
0.325	+/-0.010	.323	Δ		V	
0.300	+/-0.010	.300	Δ		V	
0.400	+/-0.010	.401	Ø		V	
6.000	+/-0.010	6.001	Ø		V	
1.000	+/-0.010	.998	Ø		V	
17.124	+/-0.010	17.124	Δ		T	
16.13	+/-0.030	16.13	?		T	
7.27	+/-0.030	7.274	Δ		V	
11.97	+/-0.030	11.97	Ø		T	
8.37	+/-0.030	8.370	Δ		PROW02	
20.05	+/-0.030	20.05	Δ		T	
12.98	+/-0.030	12.98	Δ		T	
14.59	+/-0.030	14.59	?		T	
11.66	+/-0.030	11.66	Δ		T	
0.080	+/-0.010	.079	Δ		V	

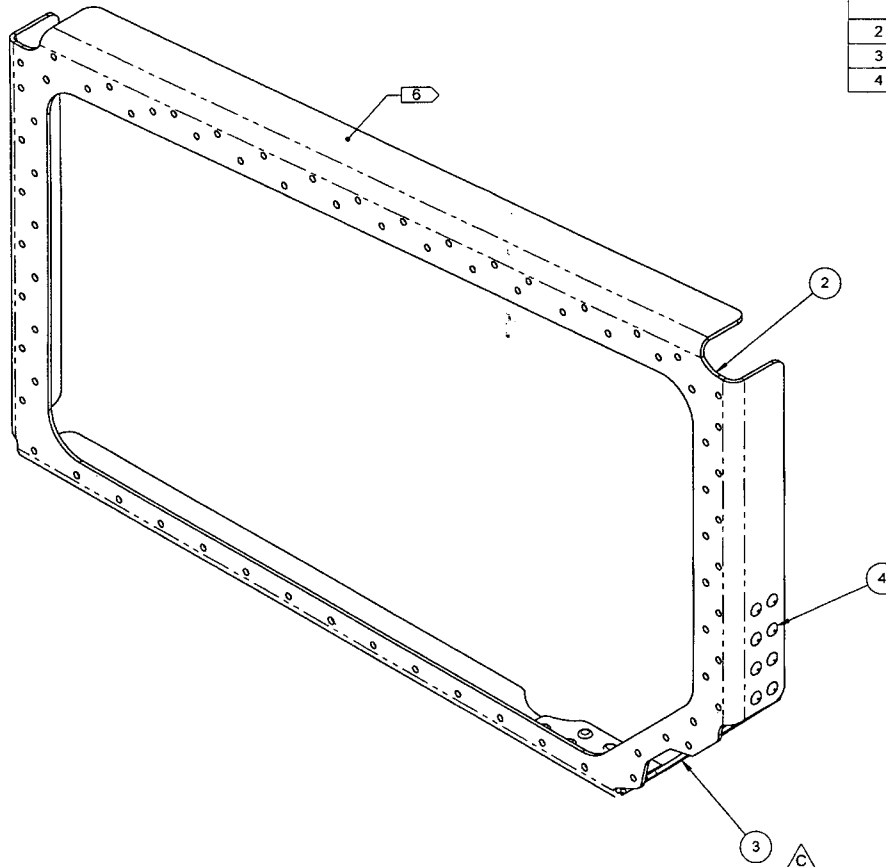
<b>Measured by:</b>	RB
<b>Date:</b>	11-9-06

<b>Audited by:</b>	D
<b>Date:</b>	11/02/07

<b>Prototype Approval:</b>	N/A
<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	04.08.24	New Issue	KJ/JLM	
B	06.03.09	Dimension 12.97 was 13.03	KJ/JLM	
C	08.11.27	Dimensions updated per Dwg Rev B	KJ/EC	
D	09.07.29	Dimension 2.100 was 2.072	KJ	
E	09.09.14	Dimensions updated per Dwg Rev C	KJ	

ITEM NO.	QTY. -1	PART NUMBER	DESCRIPTION
1	X	D3294-1	BRACKET ASSEMBLY
2	1	D3294-3	BRACKET
3	1	D3294-5	DOUBLER
4	15	MS20470AD4-5	RIVET



**D3294-1 BRACKET ASSEMBLY**

**NOTES:**

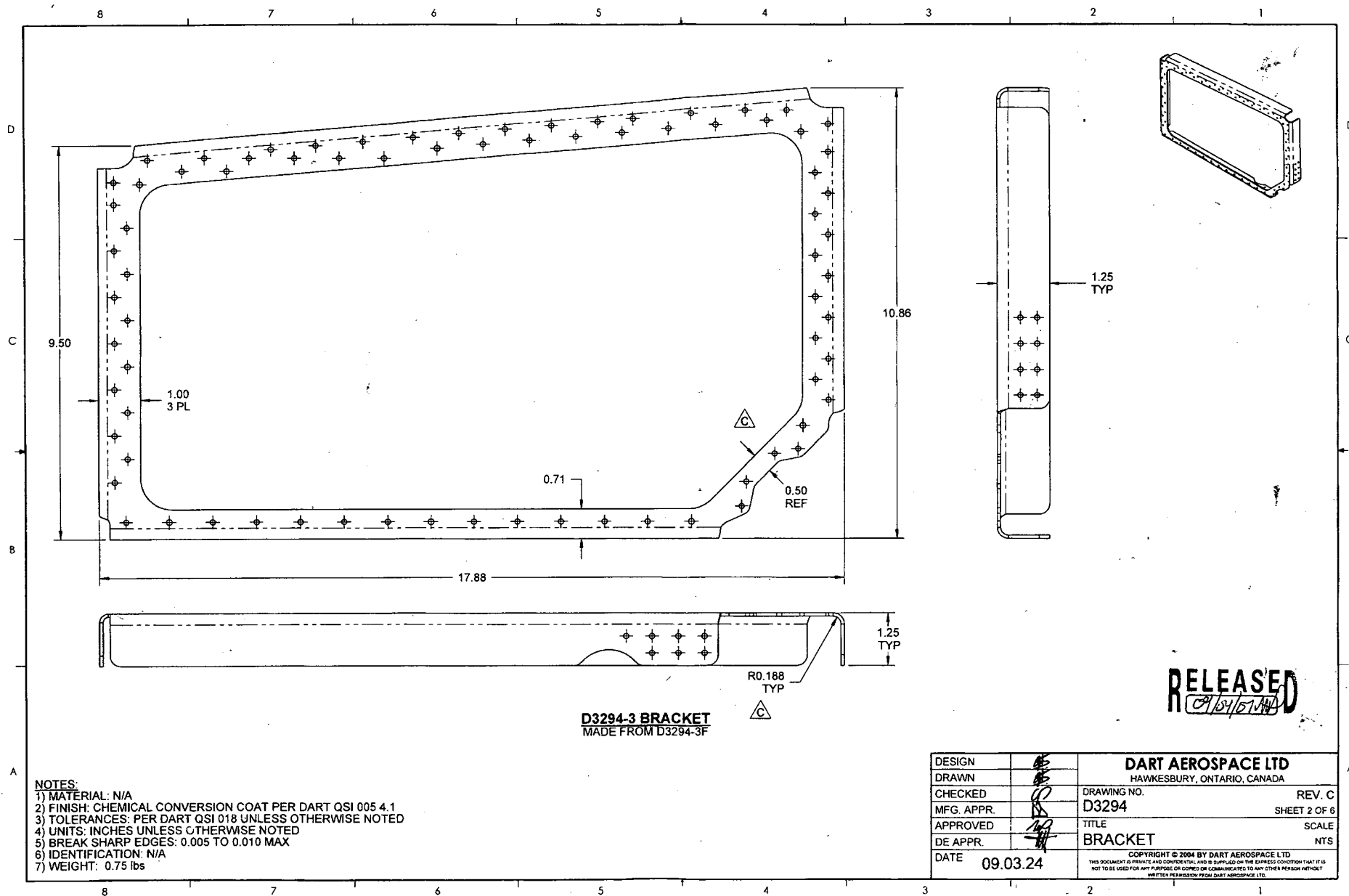
- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "BLACK" (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3294-1 AND B/N" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.83 lbs

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 73452

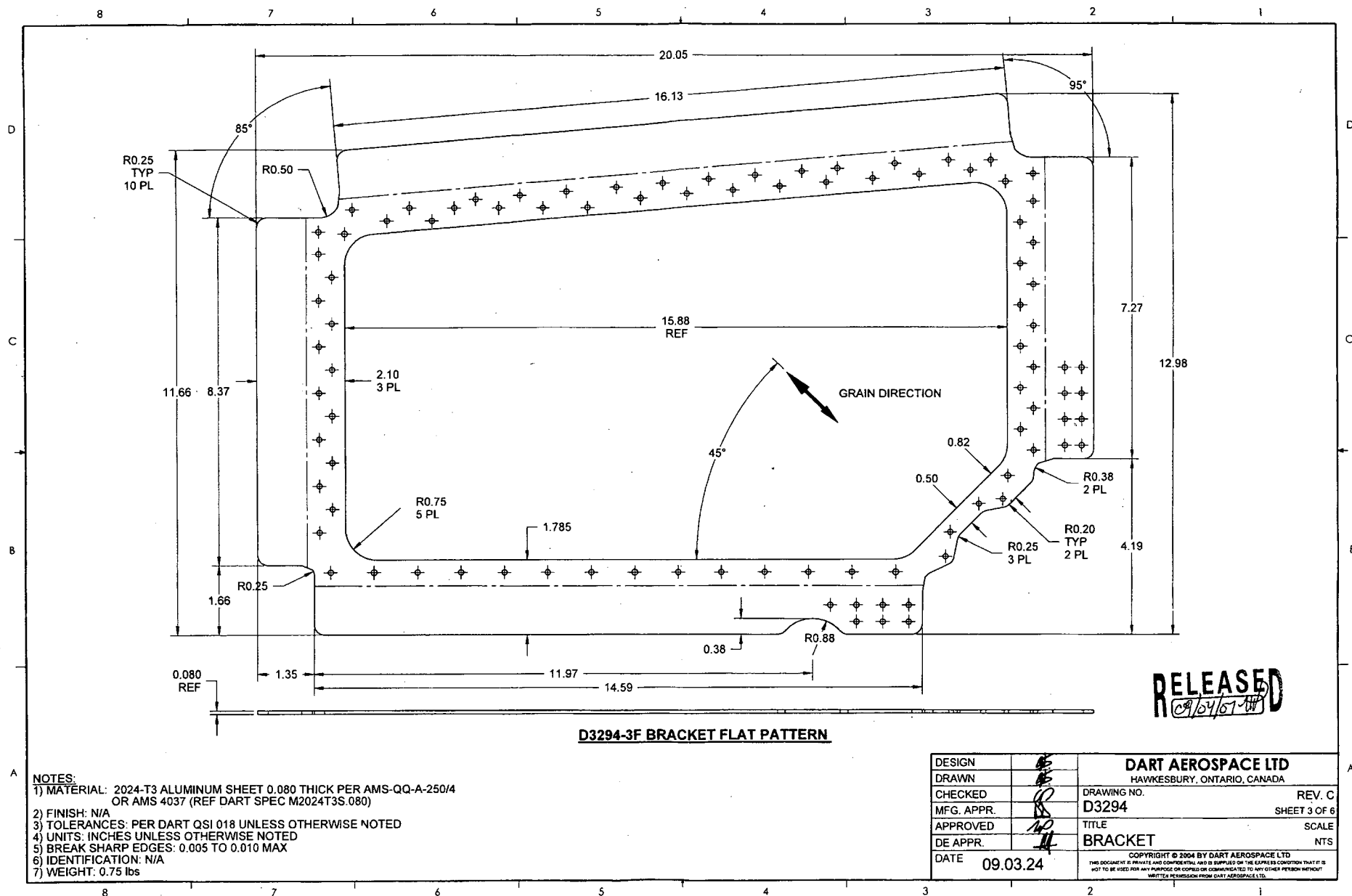
*CZ11/09/01*

**RELEASED**  
*09/07/11*

C	REMOVE FLANGE PREVIOUSLY ADDED. ADD -5 DOUBLER ZN A4-1, SHEET 5+6.	HS	09.03.24
B	CHANGE FLANGE FROM OUTSIDE TO INSIDE, ZN B4-1, C3-2. CHANGE GRAIN DIRECTION, ZN C4-2	HS	08.09.22
A	NEW ISSUE	CP	04.06.28
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3294	SHEET 1 OF 6
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	BRACKET	NTS
DATE	09.03.24	<small>COPYRIGHT © 2004 BY DART AEROSPACE LTD  THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



**RELEASED**  
09/04/01



DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D3294</b>	SHEET 3 OF 6
APPROVED		TITLE	SCALE
DE APPR.		<b>BRACKET</b>	NTS
DATE	09.03.24	<small>COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

8 7 6 5 4 3 2 1

D

C

B

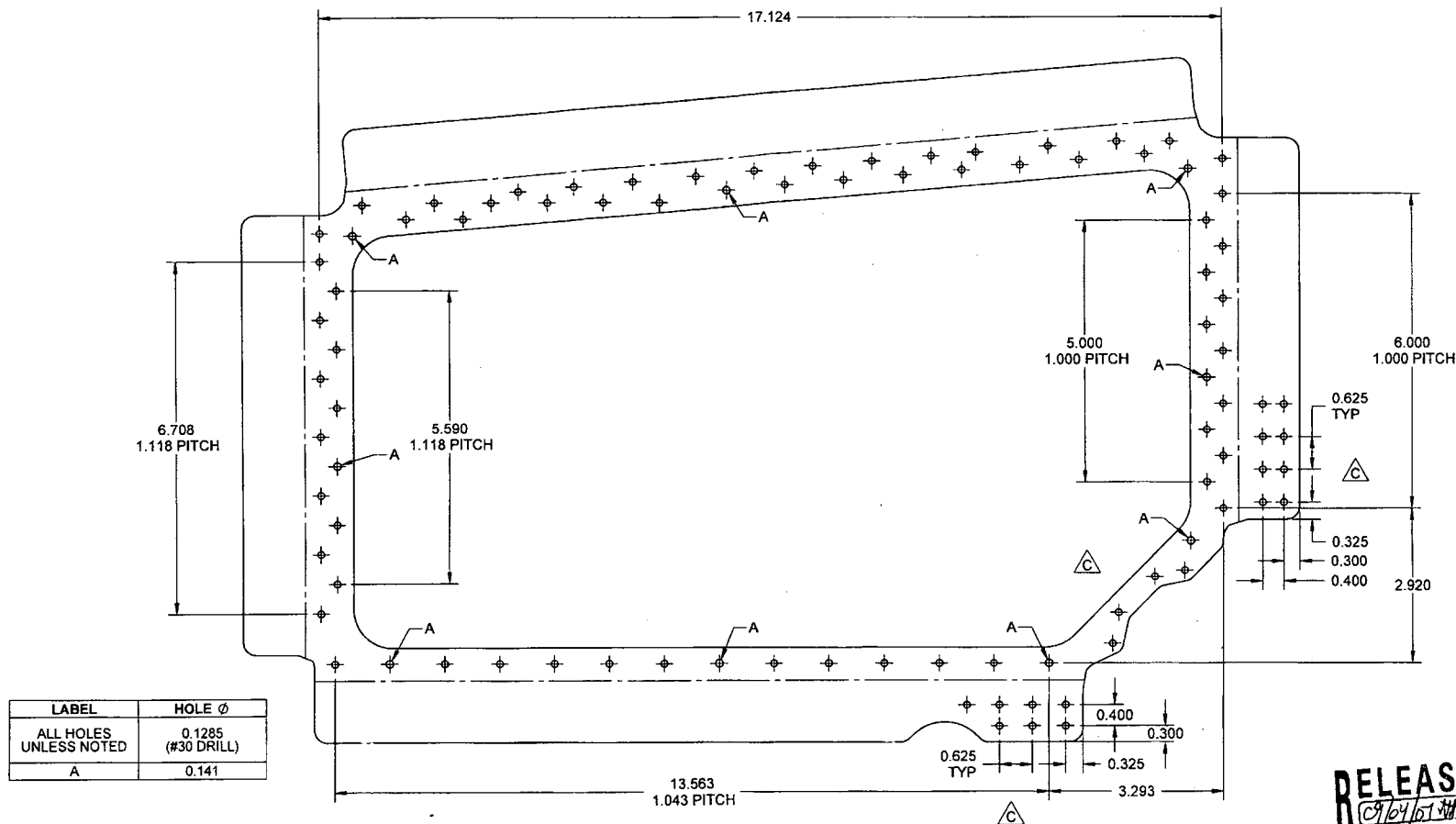
A

D

C

B

A



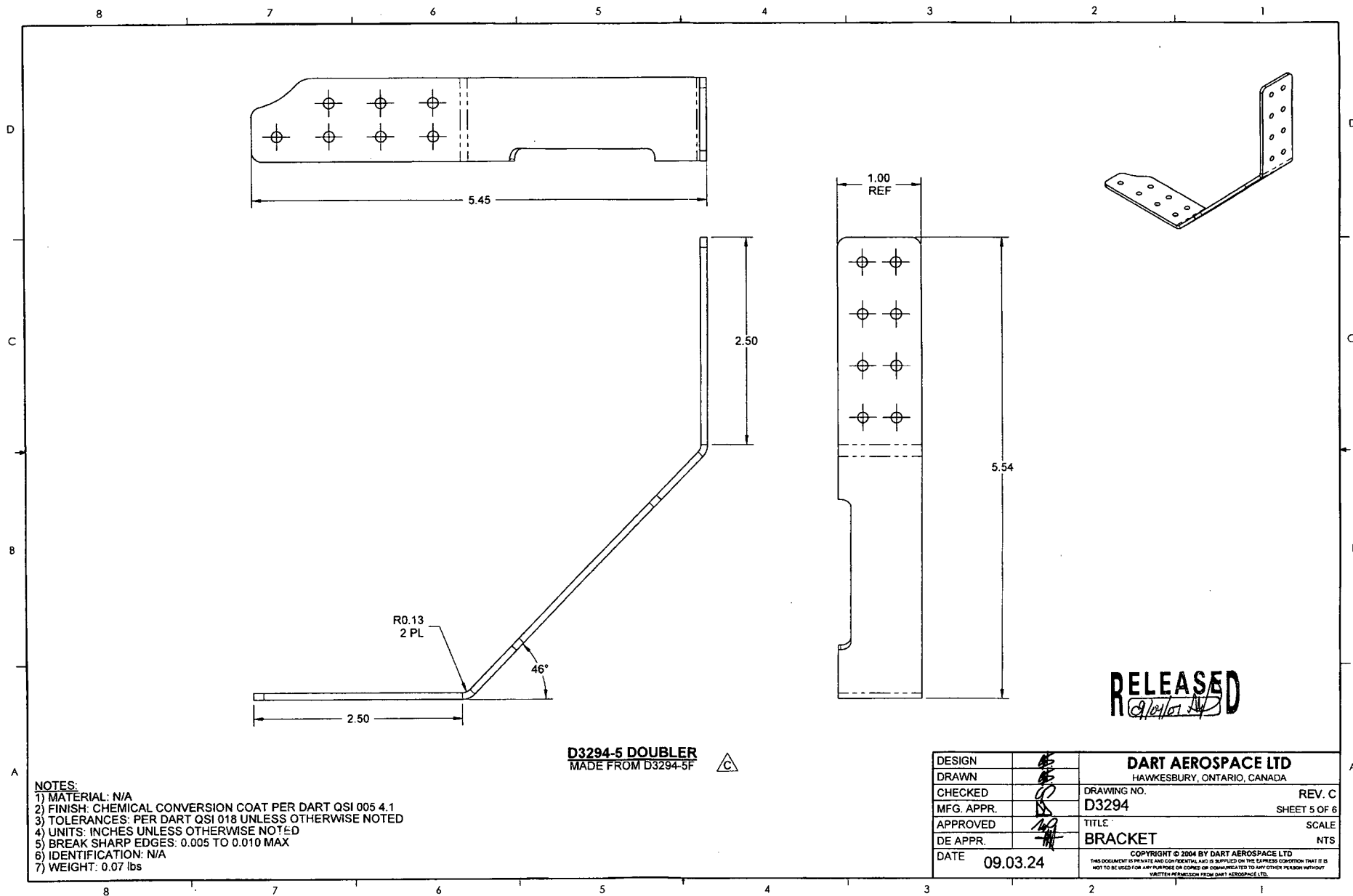
LABEL	HOLE Ø
ALL HOLES UNLESS NOTED	0.1285 (#30 DRILL)
A	0.141

**D3294-3F BRACKET FLAT PATTERN**  
SUPPLEMENTAL

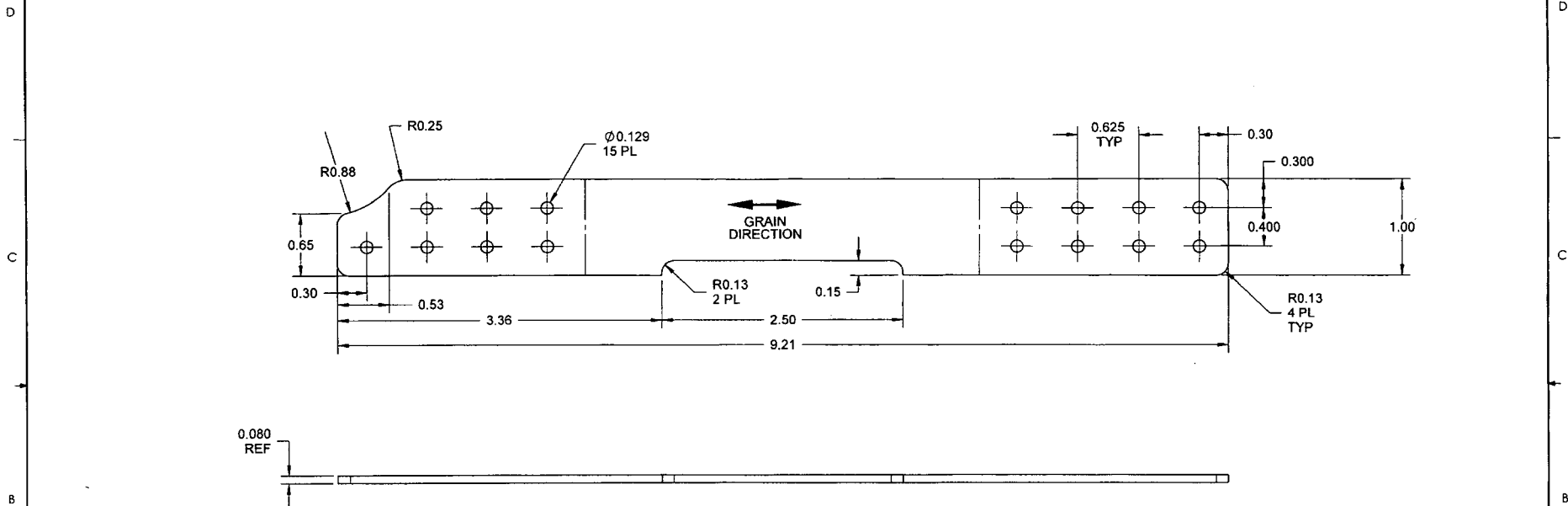
**RELEASED**  
C9/b4/b1

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D3294</b>	SHEET 4 OF 6
APPROVED		TITLE	SCALE
DE APPR.		<b>BRACKET</b>	NTS
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8 7 6 5 4 3 2 1



8 7 6 5 4 3 2 1



**D3294-5F DOUBLER FLAT PATTERN**

**RELEASED**  
09/04/07

**NOTES:**

- 1) MATERIAL: 2024-T3 ALUMINUM SHEET 0.080 THICK PER AMS-QQ-A-250/4 OR AMS 4037 (REF DART SPEC M2024T3S.080)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.07 lbs

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3294	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		BRACKET	NTS
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8 7 6 5 4 3 2 1